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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/577,276

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EXAMINER

CHEN, VIVIAN

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

05/12/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/577,276	Applicant(s) WATANABE, TAKAYUKI	
	Examiner Vivian Chen	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 February 2009 and 26 January 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 7-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 7-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. Claims 5-6 has been cancelled by Applicant.

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/20/2009 has been entered.

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-4, 7-12 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over:

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() claims 1-14 of copending Application No. 10/557,205 (US 2007/0054089), or
() claims 1-12 of copending Application No. 12/007,748 (US 2008/0138601),
in view of JP 10-193494 (JP '494).

The copending Applications claim white, highly reflective films comprising aliphatic polyester (i.e., polylactide resin) and a white pigment filler, wherein said films have the recited reflectance properties, pigment content, void content, and other recited features. Features not explicitly claimed (i.e., metal and other layers, etc.) would have been obvious to one of ordinary skill in the art as disclosed by JP '494.

JP '494 discloses that it is well known in the art to combine a reflective polymeric white base film with a metal layer and a surface layer in order to obtain a highly reflective articles suitable for use in LCD devices. The metal layer comprises silver or silver alloy, with a typical thickness of 10-200 nm. (entire document, e.g., paragraphs 3-5, 8, etc.)

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use a known environmentally friendly highly reflective white film derived from polylactide resin as claimed in the copending Applications as the base layer of the reflective film of JP '494 in order to form useful reflective laminates. One of ordinary skill in the art would have used conventional functional layers (e.g., adhesion-promoting layers) (claim 2-3) to improve the adherence between various layers of the laminate. It would have been obvious to incorporate effective amounts of known stabilizing additives (claim 7, 9) in order to improve the stability and maintain performance during usage of the laminate. One of ordinary skill in the art would have selected the filler content (claim 8) and film orientation conditions (claim 10) in order to obtain the specific reflectance and mechanical properties required for a given end-use.

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Since ambient light typically contains some proportion of radiation in the UV wavelength range and since the present claims do not specify the duration of the UV irradiation, the Examiner has reason to believe that the disclosed reflective white film would substantially retain its reflective characteristics upon exposure to ambient light at least for least a brief duration (claim 12).

This is a provisional obviousness-type double patenting rejection.

Claim Rejections - 35 USC § 103

1. Claims 1-4, 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over:

JP 10-193494 (JP '494),

in view of ROSENBAUM ET AL (US 6,815,079),

and in view of LANEY ET AL (US 6,846,606).

JP '494 discloses a reflective multilayer film comprising a base layer, a metal layer, and a surface layer. The base layer is a voided white film comprising a polymer and a white pigment (e.g., titanium oxide, barium sulfate, etc.), wherein the film has a light transmittance of less than 50% and a reflectivity of greater than 90%. The metal layer comprises silver or silver alloy, with a typical thickness of 10-200 nm. The film is suitable for use in LCD devices. (entire document, e.g., paragraphs 3-5, 8, etc.) However, the reference does not explicitly disclose the use of aliphatic polyesters.

ROSENBAUM ET AL discloses that it is well known in the art to form reflective voided white films from a composition comprising primarily polylactide resins and a white pigment, which is suitable for metallization, in order to form economical, environmentally friendly white films with improved orientation characteristics. Functional coatings (e.g., adhesion-promoting

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coatings, etc.) can be applied to the film. The reference further discloses that it is well known in the art to incorporate known additives (e.g., stabilizers, etc.) in said white films. (line 10-14, 27-35, col. 1; line 42-68, col. 2; line 19-25, 44-55, col. 4; line 7-16, 50-63, col. 5; line 1-15, col. 6)

LANEY ET AL discloses that it is well known in the art to form white, highly reflective films comprising polylactide resin and barium sulfate and having a typical void content of less than 60 vol% and typical filler content of 23-65 wt% to obtain films having a reflectance of greater than 94% for wavelengths between 300-700 nm, wherein the reflective polylactide films are capable of achieving reflectance values of 98% or more. The films have a typical longitudinal stretch ratio of 3.3 and a transverse stretch ratio of 3.3 (lines 5-20, 59-65, col. 7; Example 1; Tab

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use a known environmentally friendly highly reflective white film derived from polylactide resin as disclosed in ROSENBAUM ET AL and LANEY ET AL as the base layer of the reflective film of JP '494 in order to form useful reflective laminates. It also would have been obvious to adjust the amount of voiding in the base film (claim 1) to optimize the optical and mechanical properties for specific applications. One of ordinary skill in the art would have used conventional functional layers (e.g., adhesion-promoting layers) (claim 2-3) to improve the adherence between various layers of the laminate. It would have been obvious to incorporate effective amounts of known stabilizing additives (claim 7, 9) in order to improve the stability and maintain performance during usage of the laminate. Since ambient light typically contains some proportion of radiation in the UV wavelength range and since the present claims do not specify the duration of the UV irradiation, the Examiner has reason to believe that the

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disclosed reflective white film would substantially retain its reflective characteristics upon exposure to ambient light at least for at least a brief duration (claim 12).

Response to Arguments

1. Applicant's arguments filed 1/26/2009 and 2/20/2009 have been fully considered but they are not persuasive.

(A) With respect to Applicant's arguments the films of JP '494 do not teach or suggest films having the specified reflectance properties over the recited wavelength range of 420-700 nm after exposure to UV radiation as recited in the claims have been considered but are moot in view of the new ground(s) of rejection.

Furthermore, Applicant argues that JP '494 fails to teach or disclose the claimed invention because the reference fails to disclose or suggest the adjusting the film's reflectance to within the recited broad range of wavelengths both before and after irradiation. However, contrary to Applicant's assertions, it is well within the ability of one of ordinary skill in the art to adjust the optical characteristics of films (e.g., transmission and reflectance of various wavelengths, etc.) by a variety of established techniques (e.g., incorporation of one or more pigments and/or opacifying agents; the amount of voiding in the film, etc.) to meet the optical requirements of a specific end-use. The selection of the range (or bandwidth) of light wavelengths reflected by a film is typically a matter of design choice, dictated by the optical requirements of a given application (e.g., the visual appearance of the resultant product, decorative and aesthetic considerations, etc.). In the case of JP '494, the film is primarily intended for use in LCD displays, especially paper white-colored displays (i.e., having a white-

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colored reflection or appearance), which would imply that the film has a high degree of reflectance throughout the range of wavelengths associated with visible light (typically 400-700 nm). If the JP '494 films had a high reflectance at only 550 nm (or over a very narrow bandwidth around 550 nm), as argued by Applicant, the resultant films would most likely have a decidedly off-white or colored appearance which is not desirable for the proposed applications disclosed in the reference. In lieu of any persuasive evidence to the contrary, it is the Examiner's position that: (1) the white-reflecting films in JP '494 have a high degree of reflectance not only at the test point of 550 nm, but throughout the range of visible light wavelengths; and (2) one of ordinary skill in the art is readily capable of tailoring the reflectance properties of the JP '494 films using conventional methods and/or additives to produce films with a high reflectance throughout the range of visible wavelengths.

(B) With respect to Applicant's arguments the films of JP '494 do not teach or suggest films having the specified reflectance properties over the recited wavelength range of 420-700 nm after exposure to UV radiation as recited in the claims, the Examiner notes that the claims do not specify what wavelength or duration constitutes "irradiated by". The term "irradiated" can be reasonably interpreted as referring to any exposure to any sort of radiation for any duration; "irradiate" can be also reasonably interpreted as generally referring to any sort of illumination or exposure to light, again, without specificity as to duration and wavelength.

MPEP 2111 [R-5] Claim Interpretation;

Broadest Reasonable Interpretation

CLAIMS MUST BE GIVEN THEIR BROADEST REASONABLE INTERPRETATION

During patent examination, the pending claims must be "given their broadest reasonable interpretation consistent with the specification." >The Federal Circuit's en banc decision in *Phillips v. AWH Corp.*, 415 F.3d 1303, 75 USPQ2d 1321 (Fed. Cir. 2005) expressly recognized that the USPTO employs the "broadest reasonable interpretation" standard: The Patent and Trademark Office ("PTO") determines the scope of claims in patent

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applications not solely on the basis of the claim language, but upon giving claims their broadest reasonable construction "in light of the specification as it would be interpreted by one of ordinary skill in the art." *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364[, 70 USPQ2d 1827] (Fed. Cir. 2004).

Therefore, in lieu of any explicit definitions in the specification, limitations in the claims, and/or other evidence to the contrary, the phrase "an average reflectance of 90% or more in a wavelength region of 420 nm to 700 nm when irradiated with light" as recited in the claims is deemed to fully met by a film which is capable of displaying the stated average reflectance in the stated wavelength range upon any exposure to light, irrespective of intensity or duration.

Similarly, since ambient light typically contains some proportion of radiation in the UV wavelength range, exposure to ambient light, however brief, constitutes "irradiation" by UV radiation as recited in claim 12. Furthermore, since extended use-life is generally highly desirable in products, it would be an obvious modification for one of ordinary skill in the art to use well established methods such as the use of suitable additives (e.g., UV stabilizers, UV absorbers, thermal or hydrolysis stabilizers, etc.) to minimize the well known detrimental effects (e.g., hazing, yellowing, etc.) of various environmental factors (e.g., UV radiation, heat, moisture, etc.) that would otherwise negatively affect the optical performance and use-life of the JP '494 films. Applicant has not provided any persuasive evidence to the contrary.

(C) Applicant argues that JP '494 fails to teach or disclose the claimed invention because the reference fails to explicitly disclose the use of aliphatic polyester film layers and because the reference requires as "the crux of its inventive step" the use of polyethylene terephthalate (PET) films. However, contrary to Applicant's assertions that JP '494 requires the use of PET, the reference, while providing some illustrative examples, explicitly states that that the type of base film is not particularly limited (JP '494, paragraph 5). Furthermore, the absence of specific

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examples utilizing aliphatic polyesters in JP '494 does not constitute a clear teaching away from the use of aliphatic polyesters as a base layer material.

MPEP 2123 [R-5] Rejection Over Prior Art's Broad Disclosure Instead of Preferred Embodiments

I. PATENTS ARE RELEVANT AS PRIOR ART FOR ALL THEY CONTAIN

"The use of patents as references is not limited to what the patentees describe as their own inventions or to the problems with which they are concerned. They are part of the literature of the art, relevant for all they contain." In re Heck, 699 F.2d 1331, 1332-33, 216 USPQ 1038, 1039 (Fed. Cir. 1983) (quoting In re Lemelson, 397 F.2d 1006, 1009, 158 USPQ 275, 277 (CCPA 1968)). A reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art, including nonpreferred embodiments. Merck & Co. v. Biocraft Laboratories, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989). See also > Upsher-Smith Labs. v. Pamlab, LLC, 412 F.3d 1319, 1323, 75 USPQ2d 1213, 1215 (Fed. Cir. 2005) (reference disclosing optional inclusion of a particular component teaches compositions that both do and do not contain that component); < Celeritas Technologies Ltd. v. Rockwell International Corp., 150 F.3d 1354, 1361, 47 USPQ2d 1516, 1522-23 (Fed. Cir. 1998) (The court held that the prior art anticipated the claims even though it taught away from the claimed invention. "The fact that a modem with a single carrier data signal is shown to be less than optimal does not vitiate the fact that it is disclosed."). > See also MPEP § 2131.05 and § 2145, subsection X.D., which discuss prior art that teaches away from the claimed invention in the context of anticipation and obviousness, respectively.<

II. NONPREFERRED AND ALTERNATIVE EMBODIMENTS CONSTITUTE PRIOR ART

Disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or nonpreferred embodiments. In re Susi, 440 F.2d 442, 169 USPQ 423 (CCPA 1971). "A known or obvious composition does not become patentable simply because it has been described as somewhat inferior to some other product for the same use." In re Gurley, 27 F.3d 551, 554, 31 USPQ2d 1130, 1132 (Fed. Cir. 1994) (The invention was directed to an epoxy impregnated fiber-reinforced printed circuit material. The applied prior art reference taught a printed circuit material similar to that of the claims but impregnated with polyester-imide resin instead of epoxy. The reference, however, disclosed that epoxy was known for this use, but that epoxy impregnated circuit boards have "relatively acceptable dimensional stability" and "some degree of flexibility," but are inferior to circuit boards impregnated with polyester-imide resins. The court upheld the rejection concluding that applicant's argument that the reference teaches away from using epoxy was insufficient to overcome the rejection since "Gurley asserted no discovery beyond what was known in the art." 27 F.3d at 554, 31 USPQ2d at 1132.). Furthermore, "[t]he prior art's mere disclosure of more than one alternative does not constitute a teaching away from any of these alternatives because such disclosure does not criticize, discredit, or otherwise discourage the solution claimed...." In re Fulton, 391 F.3d 1195, 1201, 73 USPQ2d 1141, 1146 (Fed. Cir. 2004).

Therefore, one of ordinary skill in the art would reasonably believe that other suitable types of film materials may be used as the base film of JP '494 as long as such materials provide the

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desired optical characteristics, especially when said other materials provide additional or further beneficial advantages.

Conclusion

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vivian Chen whose telephone number is (571) 272-1506. The examiner can normally be reached on Monday through Thursday from 8:30 AM to 6 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho, can be reached on (571) 272-1123. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

The General Information telephone number for Technology Center 1700 is (571) 272-1700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

May 8, 2009

/Vivian Chen/

Primary Examiner, Art Unit 1794